

AMENDMENTS TO THE DRAWINGS

The attached sheet(s) of drawings includes changes to .

Figure 1, Figure 2, Figure 3, Figure 4, Figure 6, Figure 9 and Figure 11.

REMARKS

Claims 1-37 are pending. By this Response, claims 1, 14, 15, 31 and 34 are amended. Reconsideration and allowance based on the above amendments and following remarks are respectfully requested.

Applicants appreciate the indication of claims 20-30 as containing allowable subject matter.

Drawings

The Office Action alleges that Figure 1 should be labeled as “PRIOR ART.” In response, applicants have labeled Figure 1 as “PRIOR ART.” The Office Action also objects to the drawings due to some of the labels in the box structures not being visible. Applicants submit herewith new drawings which clarify the labelings on the drawings. Accordingly, withdrawal of the objection is respectfully requested.

Prior Art Rejections

Claims 1, 14, 15 and 31

The Office Action rejects claims 1-4, 10-14 and 31-33 under 35 U.S.C. §102(e) as being unpatentable over Ge, et al. (US 2002/0018263); claims 5-6 under 35 U.S.C. §103(a) as being unpatentable over Ge in view of Motley, et al. (US 5,682,256); claim 9 under 35 U.S.C. §103(a) as being unpatentable over Ge in view of Fatehi, et al. (US 6,512,612); and claims 7-8 and 15-19

under 35 U.S.C. §103(a) as being unpatentable over Ge in view of Wang, (US 6,529,301). These rejections are respectfully traversed.

The Office Action alleges that Ge teaches each feature of independent claims 1, 14, 15 and 31. Applicants respectfully disagree.

Ge teaches a wave division multiplexing optical IP switching system. The system switches data packet payloads in the optical domain. Input data is received at an optical switch 10. A control unit 20 processes header information from the data packets in order to correctly route the data packets. Space switch blocks 18 are used to select and forward particular data packets on a given wavelength to a broadcast and select switch 26. The space switch block 18 contains space switch splitters 51 that split each signal into N identical signals and route the signals to space switches 19 in the space switch block 18. The signals are then provided to a wavelength converter 22 and then forwarded to a select switch 26. This provides a continuous flow of data through all switches. Each output of a select switch is connected to a multiplexer 32. The multiplexer combines the data packets received from the selected switch 26 and forwards it as an output on WDM fiber 48.

In contrast, embodiments of the present invention provide a demultiplexer to separate signals into a plurality of wavelengths. The splitters receive the demultiplexed wavelength signals and split the signals into a number of output signals. A cross connect switch receives the signals from the splitter and provides the signals to certain predetermined output ports for each respective output signal. The signals from the switch are provided to a combiner along with a control signal, operating on a separately designated control wavelength. The control signal controls the selection of the predetermined output ports by the switch.

The Office Action alleges that the splitter 16 of Ge corresponds to applicants claimed demultiplexer. However, the splitter 16 merely splits signals into “N identical signals” and forwards these signals to the switch blade 18. See paragraph 39. The splitter 16 does not separate received signals into a plurality of wavelengths as recited in claims 1, 14, 15 and 31.

The Office Action also alleges that the space switch 18 corresponds to applicant’s claimed cross connect switch. Applicants respectfully submit, however, that the space switch 18 outputs signals to wavelengths converters 22 connected to each output of the space switch 18. The space switch does not output signals to predetermined output ports corresponding to each respective output signal. In Ge’s system, a determination of the output of the signals from the space switch 18 is not performed. There isn’t a predetermined output port for each respective signal as in embodiments of the present invention.

Further, the Office Action alleges that the multiplexer 32 of Ge corresponds to applicant’s claimed combiners. Applicants respectfully submit that the multiplexers of Ge merely combine received data and forward it to the output WDM. The multiplexers do not perform a selection of predetermined output ports in the switch. Further, a control wavelength is not combined with the output signals. The Office Action alleges that paragraph 46 of Ge provides this feature of applicant’s embodiments. Paragraph 46, however, merely discusses the switch block 18 under the control of the control unit 20, selecting and forwarding data packets on a given wavelength that is underutilized. This section of Ge does not disclose the multiplexers selecting predetermined output ports by the switch.

Further, regarding claim 31, Ge does not teach multiplexers generating a plurality of grouped output signals. The multiplexer of Ge merely combines data to create singular output signals and forwards these signals on the WDM fiber 48.

Thus, Ge fails to teach , *inter alia*, a demultiplexer to separate a received optical communication signal, carrying a mixture of broadcast and targeted communication services for users, into a plurality of wavelengths; at least one optical cross connect switch to receive said plurality of output signals from said splitters, and to connect each output signal respectively to a predetermined output port; and a plurality of combiners, each combiner having at least more input signal than the number of output signals for each said splitter wherein the at least one more input signal carries at least one control channel, operating on a control wavelength, to control selection of the predetermined output ports by the switch, as recited in claim 1.

Ge also fails to teach, *inter alia*, a demultiplexer to separate a received optical communication signal into a plurality of wavelengths; at least one optical cross connect switch to receive said plurality of output signals from said splitters, and to connect each output signal respectively to a predetermined output port; and a plurality of combiners, each combiner having at least one more input signal than the number of output signals for each said splitter wherein the at least one more input signal carries at least one control, operating on a control wavelength and each combiner to receive and a combine a plurality of said output signals from said switch, and to output said combined signals, as recited in claim 14.

Ge also fails to teach, *inter alia*, a demultiplexer to separate a received optical communication signal, carrying a mixture of broadcast and targeted communications and services for users, into a plurality of wavelengths; at least one optical cross connect switch that

receives said plurality of output signals from said splitters and to connect each output signal respectively to a predetermined output port; and a plurality of combiners, each combiner having at least one more input signal than number of output signals for each said splitter wherein the at least one more input signal carries at least one control channel, operating on a control wavelength, to control a selection of the predetermined output ports by the switch, as recited in claim 15.

Ge also fails to teach, *inter alia*, receiving and separating an optical communication signal into a plurality of wavelength signals; connecting each input signal respectively to a predetermined output port to generate an output signal; and combining predetermined groups of output signals together to generating a plurality of group output signals, where the grouped output signals each include at least one more output signal than splitter input signal wherein the at least one more output signal carries at least one control channel, operating on a control wavelength, to control connecting of the splitter inputted signals to the output ports, as recited in claim 31.

Further, Motley, Fatehi and Wang fail to make up for the deficiencies of Ge noted above. Therefore, in view of the above, applicants respectfully request reconsideration and withdrawal of the above noted rejections to independent claims 1, 14, 15 and 31. Dependent claims 2-13, 16-19 and 32-33 are also distinguishable over the cited art for the above reasons as well as for the additional features they recite. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

Claim 34

The Office Action rejects claims 34-36 under 35 U.S.C. §102(e) as being unpatentable over Fuse, et al. (US 5,541,757) and claim 37 under 35 U.S.C. §103(a) as being unpatentable over Fuse. These rejections are respectfully traversed.

Fuse teaches a video on demand (VOD) system that allows a user to select a desired media to watch. The desired media is scheduled at certain times and upon selection by the user the media is provided to the user starting at a specific time frame and ending when the media selected ends.

In contrast, in embodiments of the present invention, portions of wavelengths for broadcast connection services supplied to one group of users are switched to a different predetermined group of users at a predetermined time. Thus, the bandwidth is increased for one group of users, when the wavelengths are switched and reduced for the others. This is an entirely different concept than VOD, where media is essentially selected by a user and provided to a user until the entire contents of the media has been provided to the user.

Thus, Fuse fails to teach, *inter alia*, receiving an optical communications signal carrying broadcast communication services for users; and scheduling a portion of the broadcast communication services to be delivered as separate, targeted communication services to a predetermined group of users, where the wavelengths representing the delivered portion of the broadcast communication services are switched at a predetermined time from use by the broadcast communication services users to said predetermined group of users, as recited in claim 34.

Therefore, in view of the above, applications respectfully submit that Fuse fails to teach each and every feature of claim 34 as required. Dependent claims 35-37 are also distinguishable in view of Fuse for the above reasons as well as for the additional features they recite. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

Conclusion

For at least these reasons, it is respectfully submitted that claims 1-37 are distinguishable over the cited art. Favorable consideration and prompt allowance are earnestly solicited.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petition(s) for a one (1) month extension of time for filing a reply in connection with the present application, and the required fee of \$120.00 is attached hereto.

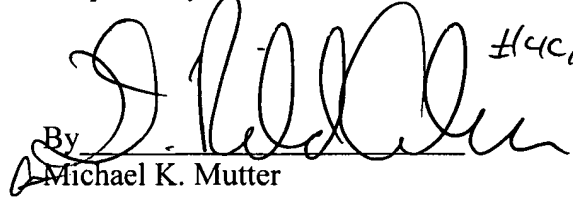
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad J. Billings (Reg. No. 48,917) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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Attachments